

Chapter 9 -- Map Exercises

Canadian and U.S. topographic maps are excellent sources of information on the physical and cultural landscapes of North America. The map scales of 1:24,000 and 1:50,000 provide the most detailed information and are used in the assignments in this chapter. Although small areas of U.S. topographic maps are available at <http://www.topozone.com>, the actual paper map sheets (18 x 23 inches) are needed for a comprehensive overview of the patterns and to complete the assignments in this chapter.

Cultural Geography on Topographic Maps, by Karl B. Raitz and John Fraser Hart (1975), was the initial inspiration for six of the nine map exercises included in this chapter. These assignments were revised and clarified many times in response to student comments. Field work was conducted in the areas covered by each of the topographic maps mentioned.

Students learn how to read the cultural landscapes on topographic maps best by discussing and grading the answers to each assignment in class. Each assignment should be graded by a different student to assure the greatest amount of fairness. Each exercise is printed on one sheet, often on both sides, so that it can be removed for grading.

Amana Colonies -- Background (use the Web)

Name _____ (Grader _____)

Use the web sites shown on the **course schedule web page** to get the information for this assignment.

General Questions

- origin of the Amana colonies was in which country: _____ and in which year: _____
 - the Amana settlers arrived in which US state: _____ and in which year: _____
 - how many members settled in Iowa in 1855?: _____
 - name the oldest villages in Iowa:
1) _____ **2)** _____ **3)** _____
 - the large residential buildings housed what? _____
 - in the communal kitchens, men and women and children ate at _____ tables.
 - when did they abandoned their communalism? _____
 - the Amana Society today manages _____ acres of land.
- Count the number of each feature in the table below:

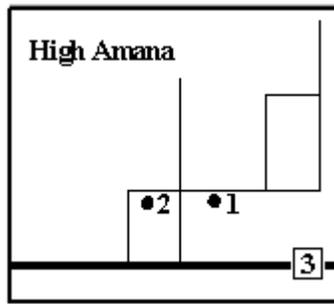
Feature	Numbers
villages	
restaurants	
wineries	
meat shops & smokehouses	
bakeries	
museums	

Map Questions

- how many miles are the villages from Des Moines? _____
- which Interstate highway runs to the south of the colonies? _____
- which is the largest village? _____
- cite two pieces of evidence, directly from the map(s) at this web site, that differentiates the largest village from the other smaller ones:
1) _____ **2)** _____

For High Amana, identify each number:

- 1) _____
- 2) _____
- 3) _____



Amana Colonies in Iowa

Name _____

(Grader: _____)

Use the topographic map Middle Amana Quadrangle, IA, 7.5 minute series (1:24,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/amana1.htm>.

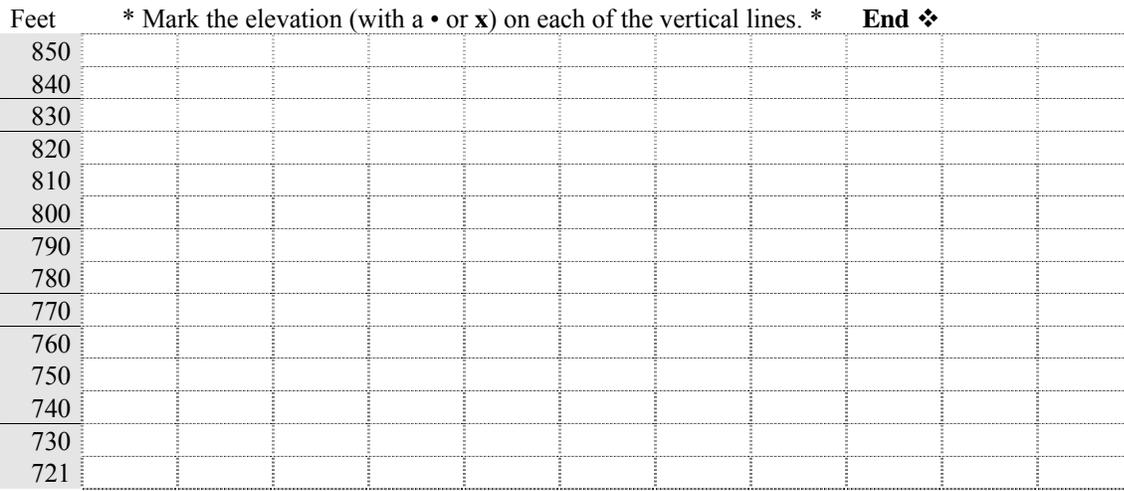
1) What **site** (defined as physical characteristic of a particular location) do the Amana villages occupy on the topographic map in relationship to the physical environments?

2) What **map symbols** (excluding roads) do West Amana and High Amana have in common?

word(s) of structure type	map symbol	location within or related to the villages (not compass directions)
1.		
2.		
3.		
4.		
5.		

3) Draw a **cross section** of High Amana through part of Sections **30** (from elevation 721) and **19** (to 850 ft.), as shown on the map below. Be sure to use the original topographic map in the library to make the cross section. Add building type symbols and probable land uses, and label any other relevant features on the cross-section on the next page.





4) Describe the **settlement pattern** on the uplands north of the Amana villages. In other words, how are the farmsteads arranged on the top third of the topographic map?

5) On the top third of the topographic map, what direct and map evidence indicates the **national (country) origin** _____ of the scattered farmsteads? Now infer this group's **religion (be as specific as possible)** _____, and the group's general **social organization** _____.

6) How are **field sizes** (not shapes) different between the individual farms and the Amana villages?

Hutterites and Mennonites in Manitoba

Name _____

(Grader _____)

Use the topographic map Altona Quadrangles, MB, 15 minute series (1:50,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/manitoba/manitoba.htm>.

1. What map evidence suggests that this area produces grains, such as wheat?

2. Look at the topographic map carefully to identify the three types of **rural settlements**.

Describe rural settlement	Place/settlement name, if any	Draw an example (does not have to be to scale)
1)		
2)		
3)		

3. **Compare and contrast Mennonite (M) and Hutterites (H) settlements on the Altona map.** Complete the table with the appropriate symbols or word(s), the presence or absence of items, and/or the spatial patterns of barns and houses.

Village	M/H Which one?	School	Church	Barns	Houses	Other
Blumengart						
Reinland						

4. **Based on the photos on the web**, what settlement features do **not** appear on the topographic map **or** have **changed** since the map was published? Indicate what the photos show that the map does **not** show.

Village type	Photos show
Blumengart	
Reinland	

5. What map evidence indicates that the Mennonites are German?

6. Canadian topographic maps show **houses and outbuildings (barns)** differently from U.S. maps. Illustrate with a diagram of symbols. Add words if you want.

French Long Lots in Quebec

Name _____

(Grader: _____)

Use the topographic map Vercheres Quadrangles, PQ, 15 minute series (1:50,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/quebec/que1.htm>.

1) Cite four kinds of **map evidence, both direct and indirect**, for the presence of **Roman Catholics**?

- a) _____
- b) _____
- c) _____
- d) _____

2) What **direct and indirect map evidence** suggests that the area was surveyed into **long-lots**? Provide as many reasons as you can.

3) Using the scale provided on the map, calculate the average width (in feet) of the farms along the road located north of the Ruisseau de la Rouchiere and between lines 39 and 42. **Count all building symbols, except the silos, on the north side of the road only and then divide by 2 to derive the number of farmsteads** (assuming a house and barn each). Remember that 1 mile equals 5,280 feet.

all structures: ____; farmsteads: ____; length of the road: ____ miles or ____ feet;

average width per farmstead: ____ feet

4) Settlements follow rivers and interior roads. Order the four lines of settlement on the topographic map from oldest (1) to newest (4).

- ____ Riviere Richelieu
- ____ St. Lawrence River
- ____ Road running from grid lines 42 to past 41 (running just below Ruisseau des Quarante)
- ____ Road running from grid lines 42 to 39 (running just above of Ruisseau de la Rouchiere)

5) What do the star-like symbols stand for? Look where they are located!

6) Explain the general location of the forested areas, as related to the “white” areas (open fields) and settlements. Provide as many reasons as you can.

7) Locate the area bounded by 1) Paroisse de St.-Louis, 2) Mun de paroisse de Saint-Jude, 3) the road on which Michaudville is located, and 4) Paroisse de St.-Ours. Use different colors for the political boundaries, the roads, and the field patterns. Use tracing paper or a light table (or a window) to trace the patterns. Use the cuts in the forested areas to draw lines **accurately** that indicate the long lot survey system. **A map must have a legend** which indicates what everything on the map means. Use colors not words for colors in the legend. Do neat and careful work; this must be college-level quality!

Distribution of U.S. Churches by Counties

This worksheet is for your own use only. Don't hand it in with your written analysis.

Look at the colored version of the Churches per County map on the web at <http://www.uwec.edu/Geography/Ivogeler/w188/relgdata.htm>.

PART I Geographical Patterns

Complete the table by providing examples of different places with high and low concentrations of churches by county.

places	high concentrations	low concentrations
regions		
states		
metropolitan areas		
smaller cities		

PART II Explanations

Identify **three different kinds of reasons (variables)** that might explain the pattern of the largest and the smallest number of churches by county in the US.

1) For the *largest* number of churches per county

- A) _____
- B) _____
- C) _____

2) For the *smallest* number of churches per county

- A) _____
- B) _____
- C) _____

3) Identify some *exceptions* to the patterns you identified above.

A) *more churches* than expected:

- urban: _____
- rural: _____

B) *fewer churches* than expected:

- urban: _____
- rural: _____

After the class discussion of this map, summarize your new insights of the map, “Churches per County,” on one, single-spaced, machine-printed page; place your name in the top right-hand corner. Only discuss the major spatial patterns and then explain these patterns as you now understand them. Limit yourself to one specific example for each major point you want to make.

Indian Reservations in Arizona

Name _____

(Grader: _____)

Use the topographic map Hotevilla Quadrangles, AZ, 7.5 minute series (1:24,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/relief2.htm>.

Compare the topographic map with the web pages for this assignment!

1) What Indian group occupies most of the map? _____
 Which other Indian group and reservation surrounds it? _____

2) Describe the settlement pattern on this topographic sheet. _____

3) Compare and contrast Hotevilla and Bacavi, which are defined by the dashed lines on the map below. Complete the table using the appropriate words and numbers.

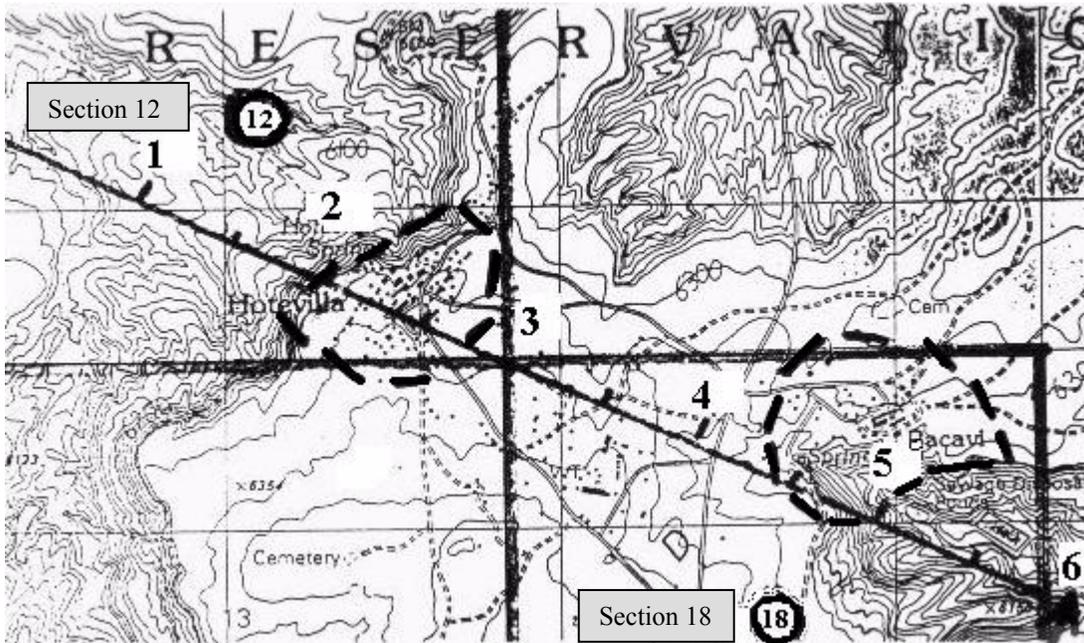
Village	Physical site	# of houses (approx.)	# of unimproved roads	Age of village (infer from evidence)
Hotevilla				
Bacavi				

4) What are the long, black symbols on the map in Hotevilla and Bacavi? _____
 What structure does Hotevilla have that is **not** indicated on the topographic map? _____

5) Where are the water tower and the school located? _____
 Who built this infrastructure? _____
 Why were they built in this location? _____

5) Explain why (historically) Hotevilla is located where it is? _____

7) Draw a cross section along the diagonal line with six divisions.



Place **seven Xs** at the appropriate distances and elevations and then join them. **Label** the major landforms, village location, place names, land use, etc. Be accurate and neat.

end❖

6320						
6300						
6280						
6260						
6240						
6220						
6200						
6180						
6160						
6140						
6120						
6100						
6080						
6060						
6040						
6020						
6000						
5980						
5960						
feet ♦ start	Section 12			Section 18		

Indian Reservations and Spanish Grants in New Mexico

Name _____ (Grader: _____)

Use the topographic map San Juan Pueblo Quadrangles, NM, 7.5 minute series (1:24,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/relief.htm>.

- 1) Provide two pieces of evidence from **the map** for the presence of
 American Indians _____ ; _____
 Hispanic-Americans _____ ; _____
 Anglo-Americans _____ ; _____

- 2) In the Government Documents section of the UWEC library, use the *Handbook of North American Indians* to find San Juan Pueblo and then complete the following questions.
 a) communal land (acres): _____ ; arable land: _____
 b) mountains are _____
 c) Tewa and the Navajo have been long-time _____
 d) identify the land uses in the village:

land uses

1. _____
2. _____
3. _____
4. _____
5. _____

3) WEB: How does this part of New Mexico?

4) What is the difference between a land grant and a reservation?

5) What are the differences between San Juan Pueblo and Chamita?

village	Indian or Spanish	settlement pattern	housing density	field shapes & land use	road pattern
San Juan Pueblo					
Chamita					

6) WEB: How are the cemeteries in San Juan and Chamita different and similar?

Place	Differences	Similarities
San Juan Pueblo	1.	1.
Chamita	1. 2.	2. 3.

Is the San Juan Pueblo cemetery sign spelled correctly? _____

7) Identify the name of another example of each settlement type.

Indian _____
 Hispanic _____

8) How many Spanish land grants appear on the map? _____
 Identify the names of at least three of these Spanish land grants.

- a) _____
- b) _____
- c) _____

9) Draw a diagram of all the land grants, showing their relative size and shape. Add their names. You don't have to draw it exactly to scale, but be accurate. Don't draw a separate diagram of each grant!

Black Hamlets and Horse Estates in Kentucky

Name _____

(Grader: _____)

Use the topographic map Centerville Quadrangle, KY, 7.5 minute series (1:24,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/kentucky/ky.htm>.

Questions are based on the relevant web pages, the Centerville topographic map, and on finding the answers on your own.

- 1) Web: How many Black hamlets are there in the Lexington Basin or Inner Bluegrass Region? _____
- 2) Web: What is the percentage of Blacks in the rural areas that contain Mattoxtown, Jimtown, and New Zion?

- 3) Map: Name the five (Black) hamlets? a) _____ b) _____
c) _____ d) _____ e) _____
- 4) Web: Based on the historic marker in New Zion, when was it founded? _____
By what kinds of people? _____ And how many acres did it consist of? _____
- 5) Map: Identify two distinctive features of the settlement pattern of these Black hamlets, especially in Jimtown, New Zion, and Mattoxtown. (Recall previous settlement patterns on other topographic maps!)
1) _____ 2) _____
- 6) Map: Compared with the Amana, Hutterite, and Mennonite settlements, these Black hamlets lack what settlement feature? _____
- 7) Map: Where do you predict the Blacks in these hamlets might have worked, at least in the past?

- 8) Map: Name the state park. _____
- 9) Map: What are the large, black symbols on the topographic map? _____
- 10) Map: Count the number of times "private" is used to label roads? _____
What do the many long private roads indicate? _____
- 11) Map: How long is the "new" (in purple) portion of the "private" drive, south of Goose Creek and west of the Russell Cave road? _____ mile
What year did this "new" road appear on this map? _____
- 12) Map: Count the number of horse training tracks. _____
- 13) What does the **Man-O-War monument** commemorate? Type "KY horse state park" into **Google** to get the answer. Copy the six-line answer here:
- 14) Map: Except for the common square- and rectangular-shaped outbuildings, draw two of the unusual-shaped structures, other than houses and other human-occupied buildings.

What are these barns used for in general and/or in particular?

15) Map: How are the many artificial ponds on the farms, roundish brown lines with small perpendicular lines inside, and Russell Cave related? Hint: what physical conditions cause cave formations?

16) Map: Draw an idealized Kentucky horse estate (with all landscape elements) based on the information from the topographic map. Add as much detail as possible, label every symbol, and include a scale.

High Income Areas in Chicago

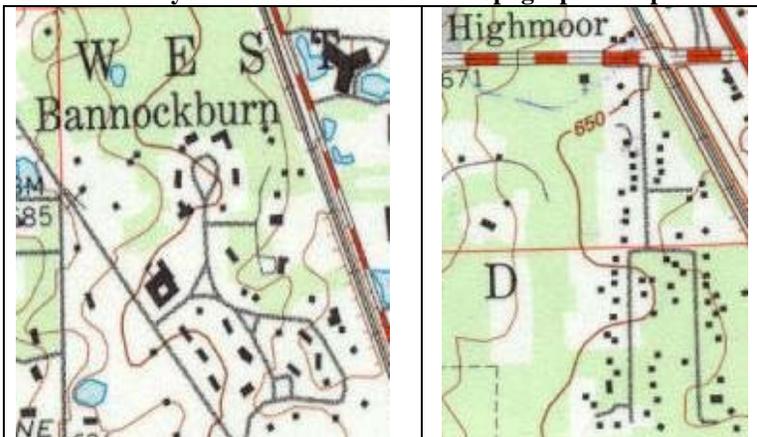
Name _____ (Grader: _____)

Use the topographic map Highland Park Quadrangle, IL, 7.5 minute series (1:24,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/moneychi.htm>.

- 1) Which two counties are included in this map? A) _____; B) _____
- 2) How far is this area from the Loop? _____ miles
- 3) Identify two residential "Northshore" communities (think about the name!):
A) _____; B) _____
- 4) What physical land feature (besides being along Lake Michigan) do all the Northshore communities have in common? _____
- 5) Examine the open-space land uses on the map; indicate the number of each type on the table.

land use type	number	land use type	number
country club		forest preserve	
golf clubs & golf course		wood (don't count "park")	
private college/academy		botanical garden	

- 6) "Linguistic landscaping" is frequently used in high-income areas. Identify five place names that use a "natural" word(s).
A) _____; B) _____; C) _____; D) _____; E) _____
- 7) Look at the residential areas **south of** where the names "**Highmoor**" and "**Bannockburn**" appear on the map. **Here are the areas you want to look at on the topographic map:**



Complete the table below, use symbols and drawings wherever possible, to indicate the **dominant patterns**.

area	house symbol	street pattern	House setback from the street	range of contours (in feet)	water bodies
Highmoor					
Bannockburn					

- 8) What do the large black Y shapes across the railroad tracks from Bannockburn symbolize? _____
What land use is represented by the black, curbed symbol, north of the Y shaped buildings? _____

9) What do the cul de sac, curved streets, and ravines in Lake Forest indicate about the neighborhood?

Examine the **web-based map** of median family income; and answer the next three questions.

- 10) WEB: Highmoor has a _____ income level than Bannockburn. (Be careful!)
- 11) WEB: What is the median family income in the area where the waterworks are located? _____
- 12) WEB: What is the median family income in the area south of Beech Street? _____
- 13) WEB: What are the lines perpendicular to the shoreline along Lake Michigan? _____
- 14) WEB: Four of the five mansions shown have what in common? _____
- 15) WEB: When was Barat College established? _____
- 16) WEB: Highmoor has a \$2.5 million house. How much are the annual property taxes? _____

Mark YES or NO for this house:

Features	Yes	No	Features	Yes	No
home theater			sauna		
six-car garage			40-ft ceiling living room		
20 rooms			elevator to the fifth floor		

17) WEB: Most of the houses in Bannockburn were built in the late-1960s. Flat roofs characterized International Style houses. How is one of these houses recognized? _____

Sinning in Las Vegas, Nevada

Name _____ (Grader: _____)

Use the topographic map Las Vegas SW and NE Quadrangles, NV, 7.5 minute series (1:24,000), and the web site <http://www.uwec.edu/Geography/Ivogeler/w188/lasvegas/lasvegas.htm>.

Las Vegas SW Quadrangle

1) Based on your classroom discussions: What characterizes the **casinos** on the Las Vegas SW quadrangle? **Cite only map evidence** even though casinos are not labeled or identified.

- a) _____
- b) _____
- c) _____
- d) _____

2) Given what you already know from the lecture, what are the rectangular buildings beside or behind the casinos?

3) Identify the street names that reflect well-known casinos names?

- a) _____
- b) _____
- c) _____

Las Vegas NE Quadrangle

4) Examine the suburban commercial strips along **Fremont Street** on the *Las Vegas NE quadrangle* with "The Strip" on the *Las Vegas SW quadrangle*. Complete the table below by looking **only in the areas shown on the enclosed maps**:

Land Uses Only along Fremont Street	Land Uses along Both Fremont Street & Las Vegas Blvd South
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	Land Uses Only along Las Vegas Blvd South
	1.
	2.
	3.
	4.

